

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A high-voltage pulse generating circuit comprising:

an inductor-(22), a first semiconductor switch-(24), and a second semiconductor switch (26)-which are connected in series between opposite terminals of a DC power supply unit-(16);

a diode (32)-having a cathode terminal connected to a terminal (30)-of said inductor (22)-which has another terminal (28)-connected to an anode terminal (A)-of said first semiconductor switch-(24), and an anode terminal connected to a gate terminal (G)-of said first semiconductor switch-(24);

said inductor (22)-having a primary winding (42)-and a secondary winding-(44); and a capacitor (46)-connected in parallel to said primary winding-(42).

2. (Currently Amended) A high-voltage pulse generating circuit comprising:

an inductor-(22), a first semiconductor switch-(24), and a second semiconductor switch (26)-which are connected in series between opposite terminals of a DC power supply unit-(16);

a resistor (62)-connected between a terminal of said inductor (22)-which has another terminal (28)-connected to an anode terminal (A)-of said first semiconductor switch-(24), and a gate terminal (G)-of said first semiconductor switch-(24);

said inductor (22)-having a primary winding (42)-and a secondary winding-(44); and a capacitor (46)-connected in parallel to said primary winding-(42).

3. (Currently Amended) A high-voltage pulse generating circuit according to claim 1 ~~or 2~~, wherein said inductor ~~(22)~~ stores induced energy when said first semiconductor switch ~~(24)~~ is rendered conductive by said second semiconductor switch ~~(26)~~ which is turned on, and said inductor ~~(22)~~ generates a high-voltage pulse when said first semiconductor switch ~~(24)~~ is turned off by said second semiconductor switch ~~(26)~~ which is turned off.

4. (Currently Amended) A high-voltage pulse generating circuit according to claim 3, wherein said capacitor ~~(46)~~ forms a path ~~(52)~~ for transferring therein a current flowing through said first semiconductor switch ~~(24)~~ after said second semiconductor switch ~~(26)~~ is turned off.

5. (Currently Amended) A high-voltage pulse generating circuit according to ~~any one of claims 1 through 4~~ claim 1, further comprising:

a diode ~~(45)~~ connected in parallel to said first semiconductor switch ~~(24)~~ and having a cathode terminal connected to said anode terminal ~~(A)~~ of said first semiconductor switch ~~(24)~~.

6. (Currently Amended) A high-voltage pulse generating circuit according to ~~any one of claims 1 through 4~~ claim 1, further comprising:

a diode ~~(45)~~ having an anode terminal connected between said DC power supply unit ~~(16)~~ and said second semiconductor switch ~~(26)~~ and a cathode terminal connected to said anode terminal ~~(A)~~ of said first semiconductor switch ~~(24)~~ or said other terminal ~~(28)~~ of said inductor ~~(22)~~.

7. (Currently Amended) A high-voltage pulse generating circuit according to ~~any one of claims 1 through 6~~claim 1, wherein said first semiconductor switch (24) has a static induction thyristor.

8. (Currently Amended) A high-voltage pulse generating circuit according to ~~any one of claims 1 through 7~~claim 1, wherein said second semiconductor switch (26) has a power metal-oxide semiconductor field-effect transistor.

9. (New) A high-voltage pulse generating circuit according to claim 2, wherein said inductor stores induced energy when said first semiconductor switch is rendered conductive by said second semiconductor switch which is turned on, and said inductor generates a high-voltage pulse when said first semiconductor switch is turned off by said second semiconductor switch which is turned off.

10. (New) A high-voltage pulse generating circuit according to claim 9, wherein said capacitor forms a path for transferring thereinto a current flowing through said first semiconductor switch after said second semiconductor switch is turned off.

11. (New) A high-voltage pulse generating circuit according to claim 2, further comprising:

a diode connected in parallel to said first semiconductor switch and having a cathode terminal connected to said anode terminal of said first semiconductor switch.

12. (New) A high-voltage pulse generating circuit according to claim 2, further comprising:

a diode having an anode terminal connected between said DC power supply unit and said second semiconductor switch and a cathode terminal connected to said anode terminal of said first semiconductor switch or said other terminal of said inductor.

13. (New) A high-voltage pulse generating circuit according to claim 2, wherein said first semiconductor switch has a static induction thyristor.

14. (New) A high-voltage pulse generating circuit according to claim 2, wherein said second semiconductor switch has a power metal-oxide semiconductor field-effect transistor.